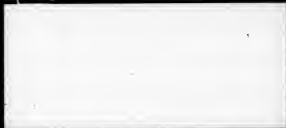


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# HeadsUp



## SECURITY

### Facial Recognition May Need Regulating

**C**ONGRESS MIGHT need to pass legislation to limit the way government agencies and private companies use facial recognition technology to identify people, a U.S. senator said recently.

The growing use of facial recognition tools raises serious privacy concerns, said Sen. Al Franken (D-Minn.), chairman of the Senate Judiciary Committee's privacy subcommittee.

During a subcommittee hearing, Franken called on the FBI and Facebook to change the way they use facial recognition technology. "I believe that we have a fundamental right to control our private information," he said.

No existing U.S. laws limit the use of facial recognition tools in the public or private sectors, said people who testified before the subcommittee. The FBI and the Department of Homeland Security have huge databases of

biometric identifiers, and they're adding facial data to them. Meanwhile, Facebook users are uploading 300 million photos to the social networking site every day, said Jennifer Lynch, an attorney for the Electronic Frontier Foundation. "Many Americans don't even realize that they're already in a facial recognition database," she said.

The FBI is testing facial recognition tools in criminal cases, said Jerome Pender, a deputy assistant director in the FBI's Criminal Justice Information Services Division. It uses a mugshot database that doesn't contain photos of people who have never been arrested, he said.

Others who testified said the technology is a useful tool that helps police arrest the correct people more quickly.

— Grant Gross, IDG News Service

## SOFTWARE

### Vendors Reach Out to Users Who Resist Upgrades

Hoping to raise awareness about the importance of keeping software up to date, several major software companies, including Microsoft and Symantec, participated in an initiative called International Technology Upgrade Week earlier this summer.

Upgrades have been hotly debated of late. Several weeks ago, Jono Xia, a former Mozilla employee, blasted updates in general, and those for Firefox specifically, as productivity sinkholes. Xia called on developers to think about the concerns of users who have to deal with the inconvenience of working with software that's constantly changing.

"A tool isn't very useful if the way you used it yesterday suddenly doesn't work tomorrow," Xia said.

Symantec, Tom Tom and Skype — acquired by Microsoft last year — were among the vendors touting upgrade week. They might face an uphill battle in trying to change users' minds about upgrades.

In a Skype survey, 25% of the respondents said they decline updates because they see no benefit in them, and 26% said they don't understand what the upgrades are meant to accomplish.

Four of 10 adults said they don't upgrade software when first prompted.

And of the 75% who said they receive upgrade prompts, half said they don't install new code until they see an alert three to five times.

— GREGG KEIZER



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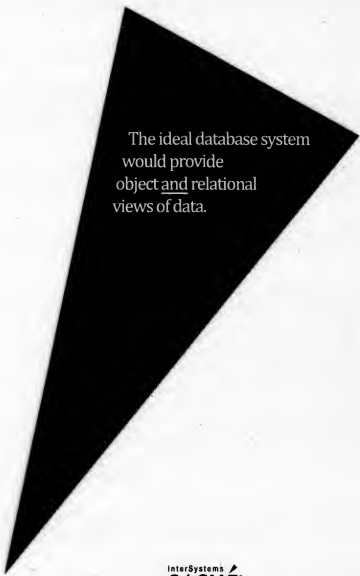
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## HEADS UP

### BETWEEN THE LINES

By John Klossner



### SECURITY

## NSA Chief Seeks Help From Hackers

**G**EN. KEITH B. ALEXANDER, the director of the National Security Agency, asked hackers for help securing cyberspace when he spoke at the Defcon conference late last month.

"This is the world's best cybersecurity community," said Alexander, who also heads the U.S. Cyber Command. "In this room right here is the talent our nation needs to secure cyberspace."

Hackers can and must be part of a collaborative approach with the government and private industry, he said. "You know that we can protect networks and have civil liberties and privacy, and you can help us get there."

Alexander congratulated the organizers of Defcon Kids, an event held to teach children how to be white-hat hackers, and described the initiative as superb.

He stressed the need for better information sharing between private industry and the government. Pointing out that the country can't take steps to thwart cyberattacks that aren't

on its radar screen, Alexander said it would be helpful if businesses could share information from their intrusion-detection systems with the NSA in real time. He added that the agency currently has no way to predict if, for instance, Wall Street is facing a threat.

The next step would be to jointly develop standards to help secure critical infrastructure and other sensitive networks, he said.

Already, the hacker community has built many of the tools needed to protect cyberspace and should continue to create even better ones, he said, giving the example of Metasploit and other penetration-testing tools.

"Sometimes you guys get a bad rap," he said. "From my perspective, what you're doing to figure out vulnerabilities in our systems is great. You guys hold the line."

According to a New York Times report, Alexander had earlier revealed that there was a 17-fold increase in cyberattacks against U.S. infrastructure between 2009 and 2011.

—Lucian Constantin, *IDG News Service*

## Micro Burst

The medical records of some

### 21 million

U.S. patients have been exposed in 477 data breaches over the past three years.

### APP DEVELOPMENT

## Oracle Halts Open-Source HPC Project

Oracle researchers are winding down development of the Fortress programming language for high-performance computing, an effort started nearly 10 years ago by Sun Microsystems.

The Defense Advanced Research Projects Agency, which originally funded Fortress, pulled its backing in November 2006. Work continued at Sun and Oracle, however.

"We feel that our effort has been worthwhile," Fortress project architect and well-known computer scientist Guy Steele said in a blog post. "Many aspects of the Fortress design were novel, and we learned a great deal from building an interpreter and an initial set of libraries."

However, Steele said that the project faced "severe technical challenges" in recent years, including a "mismatch" between Fortress and "a virtual machine not designed to support it" — and that includes not only Java VM but every currently available VM, he said.

Work on Fortress will gradually come to a stop over the next few months, Steele said. The code base will remain open source, and Oracle's Programming Language Research Group will continue to respond to queries about Fortress.

—CHRIS KANARACUS,  
*IDG NEWS SERVICE*





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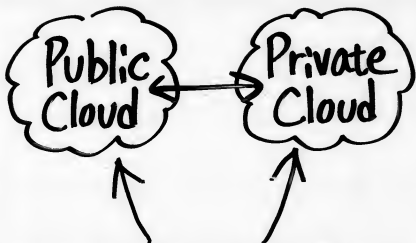
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IT systems hosted in the U.S. could help run Grupo Posadas properties like the Fiesta Americana hotel in Cozumel.

# Cloud Brings Foreign IT Spending to U.S.

**A Mexican hotel chain and others let U.S. providers host their systems despite 'FUD' campaigns that aim to raise questions about security risks. By Patrick Thibodeau**

**U**.S.-BASED CORPORATIONS and government agencies have been shipping application development work to offshore IT services providers for years.

Now, thanks to cloud computing, foreign companies are starting to bring their business to providers of data center services located in this country.

Consider Grupo Posadas, a large hotel company in Mexico that today relies on five data centers to support more than 17,000 guest rooms in over 100 hotels. Grupo Posadas IT personnel run three of those data centers; the other two are run by outsourcing partners.

Later this year, most of the company's IT capability will be moved to a data center in Texas run by Savvis, a hosted services provider based in Town and Country, Mo., said Grupo Posadas CIO Leopoldo Toro Bala.

The U.S. data center will provide cloud-based infrastructure and managed database services, according to Toro Bala.

By moving some operations to Texas, the Posadas IT group will have more time to

focus on developing systems like mobile and social networking tools that could help the business grow, he added.

"Our IT strategy is aligned to our growth, and our growth means that we need to be flexible and agile," he said.

The shift to the cloud will not affect IT costs. Instead, it will provide capabilities that will help streamline deployments of new IT systems, said Toro Bala. Previously, implementing a new system often required new equipment that could take months to deploy.

Cloud computing makes it possible to deploy new services in a matter of weeks. "That is the type of capability that we were lacking — that agility," said Toro Bala.

Meanwhile, as U.S. providers of cloud-based services start to attract foreign customers, some countries are enacting laws to protect their domestic providers, and some foreign companies are overseeing so-called FUD (fear, uncertainty and doubt) campaigns designed to raise questions about the security of U.S. data centers, said Daniel Castro, an analyst at the Information Technology and Innovation Foundation.

For instance, ads by Deutsche Telekom and other companies claim that their cloud products are more secure than those of U.S. vendors because U.S. companies have to comply with laws such as the Patriot Act, executives from industry groups and tech vendors told a U.S. House of Representatives subcommittee during a hearing late last month.

"We commonly see almost absurd positioning of what the Patriot Act permits," said Justin Freeman, the corporate counsel of Rackspace, a provider of hosted services.

Such marketing efforts, said Castro, represent a significant threat to U.S. providers of cloud-based services.

"The potential market for cloud computing is very large, and the U.S. right now is the country that stands to gain the most from it," said Castro, who also testified at the hearing.

Castro said most countries have laws that are similar to the Patriot Act, and some, including Canada and Australia, allow

businesses to turn over data voluntarily to government agencies. A U.S. company would violate its terms of service if it did that, he said.

Concerns about a lack of security or privacy in U.S. data centers didn't affect the outcome of the outsourcing decision at Grupo Posadas, which has a long history of working with U.S. IT companies, said Toro Bala.

**Grant Gross** of the *IDG News Service* contributed to this story.

and agile

flexible

Category	Item	Value
Category 1	Item 1	100
Category 2	Item 2	200
Category 3	Item 3	300
Category 4	Item 4	400
Category 5	Item 5	500
Category 6	Item 6	600
Category 7	Item 7	700
Category 8	Item 8	800
Category 9	Item 9	900
Category 10	Item 10	1000

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# Flash Storage Can Help Some IT Operations

**All-flash storage systems are speedy – and expensive. But IT execs say they can be cost-effective for certain enterprises. By Lucas Mearian**

**A**MD RECENTLY deployed a 6TB NAND flash storage array into a virtual server test environment and got some amazing results, says Fred Abounader, a performance systems engineer at the chip maker.

In virtualization benchmarking tests, the all-flash WhipTail array helped reduce latency by a factor of 50 and yielded a 40% performance improvement over the company's hard disk drives (HDD).

While the array is running in a test environment, the data is real, consisting of email, databases, Web 2.0 applications and more. "It's like a real life data center," said Abounader.

AMD is looking to determine whether its servers could be overcommitted and still run the business.

With just one 6TB flash array from WhipTail, the system was

able to achieve 86,000 I/Os per second (IOPS) for virtual machines that typically saw only 6,000 IOPS using a SAN with 400 15,000-rpm hard drives connected by a Fibre Channel network.

After a few months of testing, "there have been zero issues," said Abounader.

AMD is part of a small but growing universe of companies that are either evaluating or adopting flash technology — both all-flash arrays and less-expensive solid state drives (SSD). Flash has long been seen as a promising technology, but its high cost continues to scare off most IT executives.

In a recent TheInfoPro survey of 255 IT professionals, about 7% of the respondents said they currently use all-flash arrays and 6% said they plan to deploy the technology within 18 months. Meanwhile, 37% said they plan to deploy less-expensive SSD technology, up from just 7% a year earlier.

"We see that flash is starting to change the business world," said Kobi Rozengarten, a managing partner at Jerusalem Venture Partners, an investment firm.

Rozengarten is quick to admit that NAND flash storage will never beat the per-gigabyte price of HDD systems. But for applications like virtual desktop infrastructures and online relational databases, the technology can be very cost effective, he contends.

Vail Systems, a telephony service provider, turned to an all-flash setup to boost database response times, said David Fruin, vice president of engineering.

Vail runs interactive customer care and conference-call voice response systems, mostly for banks and insurance companies. As the volume of calls increased, Vail's HDDs couldn't keep up.

So Vail initially added 2.5-in. Intel SSDs to its Dell servers and later installed two 1TB PCIe flash modules from Virident Systems. The SSDs yielded a fourfold improvement in performance over the HDDs. And then the PCIe modules improved performance by a factor of 10. "We were looking for four times improvement and we got 10 times, so we were surprised," said Fruin.

Fruin acknowledged that the technology is expensive — each Virident module cost \$13,000. But other systems aren't necessarily cheaper. "[Flash costs] a lot of money," he said, "[but] the alternative was to throw a lot of RAM into the boxes, which is even more expensive." ♦



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# THE Grill

## Mike Capone

Even with continued success, ADP's CIO keeps the pressure on to avoid complacency.

**What's your favorite technology?**  
Groupon. They took all the things that are hot and made a business out of them.

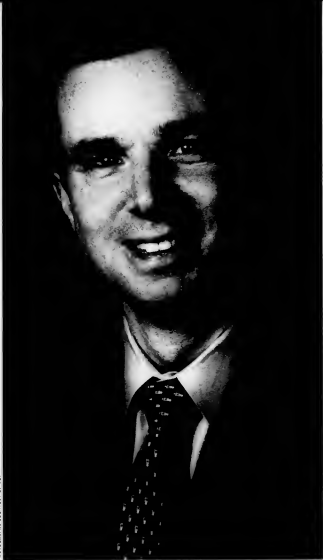
**Is there something that most people don't know about you?**  
My father was one of the first people to carry the title of CIO. He went to school for Cobol and worked his way up at JC Penney.

**What's your favorite vice?**  
French food. They use a lot of butter.

**What do you do during off-hours?**  
Travel. I love seeing the world.

**What are you currently reading?**  
*Super Sad True Love Story: A Novel*, by Gary Shteyngart. It's a satire on where the world is going in terms of all this transparency and lack of privacy.

PHOTOGRAPH COURTESY OF ADP



**A**T BUSINESS-TO-BUSINESS hosted services provider ADP, corporate vice president and CIO Mike Capone practices what he preaches. Not only does the company consume its own SaaS offerings, from payroll processing to talent management, but it also uses third-party services every chance it gets. Capone may have started out in IT, but he spent most of his 24 years at ADP on the business side before taking on the CIO role. Here he talks about how mobile, consumerization and big data are keeping pressure on IT, and why businesses must use technology to innovate, even when it voids existing business models.

**What career path did you take on your way to the CIO job?** I went to a liberal arts college, and IT was a way to pay the bills right out of college. I quickly gravitated toward business, got an MBA, and left IT. I was general manager of our global outsourcing business. Then, three and a half years ago, our CTO said, "We're thinking of naming our first CIO in company history. We think you'd be a great candidate."



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**Do you see your business background as an advantage in your role as CIO?** It's been incredibly valuable not just in terms of how I think, how I run my organization and how I prioritize, but also in terms of the cred I have with my peers. They know I've walked in their shoes.

**ADP was a pioneer of the software-as-a-service model. How has that business changed?** The most fundamental shift I've seen is the consumerization phenomenon. For many years, our clients — the people who I support both internally and externally — were people who were paid to come in and use our systems. Sometimes those IT systems were fairly ugly, but it mattered less because people had to use them. Now many of the people we are dealing with are end users because we're doing more user self-service. So the mobile and social components of this have taken off. People expect an excellent experience with technology. That puts a lot of pressure on IT on the usability and innovation front. We have to make sure we're keeping up.

**How does ADP's legacy as the granddaddy of SaaS affect how you do IT internally?** We push out as much as we can to the cloud, including expense reporting, procurement and salesforce automation. Every conversation I have starts with, "Can we do this in a SaaS model?" It takes a lot of convincing for me to do something internally.

**What aren't you willing to move to a SaaS provider?** Back-office financial systems. We're waiting for that industry to mature. But I would not be surprised if in another year or two we're having a conversation about why that can't be pushed out into an on-demand model.

**People expect an excellent experience with technology. That puts a lot of pressure on IT on the usability and innovation front.**

**What other cloud services are you using?** We've already built an internal cloud both for our clients and for all of the services we provide to our R&D organization and our business community. R&D people can provision their own servers. And even though we have two Tier 4 data centers, we still leverage infrastructure as a service. We use Amazon [EC2], for example, for some of our mobile development so that the ecosystem of partners we work with are in the cloud, not coming into our infrastructure.

**What technology projects does your company plan to roll out in the next 12 months?** We're going to roll out analytics to our clients. Not only will they get their data back and see some pretty cool visualization analytics, but they will be able to benchmark against other companies. Think of it as a kind of workforce index that an HR person can have on their desktop. So for example, you can see if you're below market for a given job code, and there will be a dashboard you can drill into to get additional benchmarks.

**What is the key to keeping ahead with the technology?** We preach that change is inevitable and we keep the pressure on all the time. When you're successful, the pressure is not there. But everyone remembers that IBM was the most profitable software company in the world and then two years later they were recording a loss. I also use the Kodak example all the time. We want to keep that in front of people and create a sense of urgency, even if our financial metrics don't show any urgency.

**How has technology changed your business model?** We're putting more and more stuff on mobile apps, which eats into other parts of our business because we don't charge for those apps. For example, we used to charge for delivery of pay slips and reports. Now it's all online. These are changes in the business model that we have to get used to.

**What's your biggest pet peeve in this business?** It's this whole concept that the cloud is something new. We've been doing this for a long time and this is just another way of transacting business. All of the hype is driving me up the wall, quite frankly.

**What emerging technologies are you most excited about?** The big data technology that's come out, the Hadoops of the world. That opens up opportunities in terms of our ability to provide analytics. We're capturing what people are doing on our websites, in our applications and mobile apps, and using that to predict what they're going to do next. We now have the ability to process and analyze all of that data so quickly and cheaply. This, I think, is going to be a big game-changer.

— Interview by Robert L. Mitchell

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# Cloud Computing

## The Autonomics behind the Economics

In recent years, cloud computing has moved from the fringe to the mainstream of enterprise IT practice. The adoption of this flexible, service-based approach to computing has been catalyzed in large part by the promise of improvements in IT efficiency and reductions in data center expenses. But, too often, CIOs and financial managers fail to understand the critical role application servers play in realizing cloud computing's economic and operational potential.

The dynamic, virtualized and highly utilized infrastructure which is characteristic of the best cloud environments requires a foundation of powerful, intelligent, cost-effective servers. Ideally, these servers will automate many once-manual IT operations,

and maximize uptime. From an economic perspective, intelligent automated servers can drastically cut administrative and maintenance costs; reduce energy usage by ensuring servers run as efficiently as possible; and minimize the potentially astronomical costs of downtime by addressing problems before they result in catastrophic failures.

These and other TCO-reduction benefits are ultimately much more impactful to corporate bottom lines than are the relatively simplistic return-on-investment (ROI) analyses that traditionally have served as the primary economic evaluation factor for application servers.

### Next-gen servers reduce costs

HP designed its latest generation of rack and blade servers—the HP ProLiant Gen8

Ideally, these servers will automate many once-manual IT operations, leading to significant improvements in cloud computing TCO and performance.

driving significant improvements in total cost of ownership (TCO) and performance.

### Intelligence and autonomics remove costs

Application servers that require laborious manual intervention for provisioning, health monitoring, firmware and software updating, and other routine tasks can seriously undermine the value of cloud computing. Whether the cloud environment is private, public, or a combination of the two, it can benefit not just from task automation but also from autonomics. "With autonomics, the server not only gathers information, but proactively does something with that information," explains Tim Golden, resident chief technology officer for Hewlett-Packard's (HP's) Americas Industry Standard Server Business.

Whether it involves "phoning home" to service professionals to alert them to potential component failures, or automatically identifying and correcting multi-bit memory errors, proactive autonomics can greatly lessen cloud TCO, improve performance,

portfolio—in large part to address the needs of virtualized cloud computing and other high-demand IT environments. The HP ProLiant Gen8 servers deliver more than 150 new features compared to earlier-generation servers, including many that leverage the servers' embedded intelligence, self-analysis, and proactive autonomics capabilities. Among the HP servers' TCO-reducing, performance-enhancing features:

- An embedded Active Health System that continuously tracks, logs and time stamps 1,600 system parameters and offers phone-home capabilities to both prevent failures and speed recovery times

- Monitoring for and, when possible, automatically correcting multi-bit memory errors on the fly without interrupting service

- Proactive identification of failing drives and automatic creation of a hot spare

Thanks to these (and dozens more) automation and efficiency capabilities, "the HP ProLiant Gen8 servers can be critical in helping CIOs achieve the optimal economic—as well as operational—benefits possible with cloud computing," says Golden. ■



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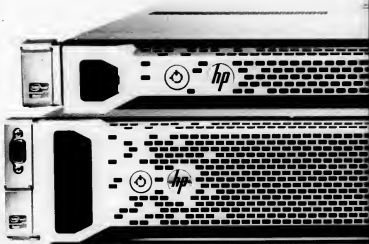


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OPINION

## PAUL GLEN

# Assess Your Surroundings From 2,000 Feet Above

From that  
vantage  
point, you  
can learn  
what a  
community  
values.

**Paul Glen**, CEO of Leading Geeks, is devoted to clarifying the murky world of human emotion for people who gravitate toward concrete thinking. His newest book is *8 Steps to Restoring Client Trust: A Professional's Guide to Managing Client Conflict*. You can contact him at [info@leadinggeeks.com](mailto:info@leadinggeeks.com).

**I'VE SPENT THE PAST TWO WEEKS** flying my experimental two-seater across the country, landing at small airports, pitching my tent wherever I can, bouncing in the thermals, and mostly observing the world from a couple thousand feet up. From that vantage point, you

can learn what a community values. The same is true, in a figurative sense, with organizations.

What can you glean from a literal bird's-eye view? Consider the impression I got of Canadian, Texas, a small town near the Oklahoma border. When I looked down on the town from the air, it seemed like a family-oriented place, neither rich nor poor, since most of the housing consisted of single-family homes with small yards. It was easy to see that the town was suffering terribly from this summer's drought. Every yard was brown and dry, as was the terrain for at least 50 miles in every direction, with one small but significant exception: At the southern end of town, a brilliant green football field was surrounded by a bright orange running track and had the name of the team, Canadian Wildcats, emblazoned in the end zones. White bleachers lined both sides of the field, which sat next to a large parking lot. The field looked very much like an oasis.

True, you don't get a lot of detail when viewing it from 2,000 feet in the air; I couldn't tell whether the field had been watered, replaced with artificial turf or painted green. But it was clear nonetheless that the townsfolk of Canadian take a lot of pride in that patch of ground. It told me that for Canadians, football is more than a game, and that field is more than just a place for their kids to play. The Canadian Wildcats' field is a public forum where the community can come together, bond and express their pride.

All communities, even project teams and companies, make decisions about what's important to them, and those choices are often indelibly

marked, visible to the observant — just as the things that are important to the residents of Canadian, Texas, were apparently visible to me from a couple thousand feet above.

Whether you're joining a technical team or working across the divide with nongeeks, the things you learn about what's important in your new environment can determine what sort of first impression you make and whether you will be embraced or rejected by your new colleagues. Violate unspoken rules of conduct, and you may be in for a rough ride.

For example, I was called in for a meeting with a potential consulting client. As I arrived, I noticed that the company had cubicles with low walls, cubicles with medium walls, cubicles with high walls, small offices with no windows, midsize offices with small windows, and large offices with big windows and meeting tables. Without exchanging a word with anyone at the company, I knew that this was a place that had a high regard for hierarchy. So I knew that I should focus my attention on the CIO rather than any of his lieutenants; they wouldn't be making any decisions and probably wouldn't voice any public opinions. I acted on that assumption in the meeting, and my suspicions were confirmed. In the end, the CIO hired me. I doubt that he would have if my behavior had not reflected recognition of the company's strict pecking order.

So when you engage with new people, pay attention not only to the tasks that you are asked to do, but also to the values of the group. A quick glance from 2,000 feet can tell you all you need to know. ♦

Fujitsu recommends Windows 7.

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# Best

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SOMETIMES **NOT ADOPTING A HOT NEW TECHNOLOGY** IS THE  
WISEST BUSINESS DECISION YOU CAN MAKE. **BY MINDA ZETLIN**

**A**

**FEW YEARS AGO**, when Bill Weeks was CIO at a leasing company, a big vendor pitched some software intended to manage leasing throughout Europe. Weeks was skeptical. "We noticed that half the stuff they were showing us was PowerPoint slides and not actual functionality," he says. "We decided it wasn't strong enough to run a business on."

He and his team decided to pass.

It's the kind of decision that CIOs have to make all the time. With the pace of tech innovation growing ever faster, IT leaders find themselves under increasing pressure to make one difficult decision over and over: adopt a promising new technology and risk the unknowns that a new implementation brings, or decline — and risk letting their companies fall behind the technological curve. The wrong decision could destroy a career.

# Hype vs. Reality: How to Tell the Difference

**THERE'S ONE THING everyone working in enterprise IT agrees about: Technology for its own sake is bad.** Every new product you adopt has to bring a business value to your organization, either by reducing costs or otherwise improving the bottom line.

Sounds great, in principle. In practice, every technology vendor has a detailed explanation of how each of its products will help your company. It's up to you to figure out which ones really will. **Here are five questions that can help,** courtesy of Rebecca Wettemann, vice president at Nucleus Research, which specializes in measuring the ROI of technology projects:

1

**Can I find a role model?** "Look at other companies that are like yours and have implemented this technology," Wettemann advises. "Take the best data they have on the ROI they received. Use that estimate as a tool for making our own decisions."

2

**What are the top three benefits?** Some vendors claim that their products will benefit your business in 10 or 15 ways. While that may be true, "most ROI from new technology comes from only two or three benefits," Wettemann says. "So only look at the top three benefits, and try to quantify them in a meaningful way."

3

**How many steps to ROI?** If virtualization software lets you skip buying a new server, calculating the ROI is pretty straightforward. But when ROI doesn't come from direct savings or specific efficiency gains, it's harder to pin down. "An increase in brand value might increase the likelihood that new or existing customers will make purchases," Wettemann says. "The more steps I have to go through to get to dollars, the more indirect the value proposition."

4

**Am I buying it because of its category?** If you know you need a CRM solution, or you've been hearing the term "big data" and wanting to get in on it, you may be considering a product because of the category it falls into, not because of its actual capabilities. "We've seen it over and over again, with knowledge management, Web services, SOA and many other acronyms," Wettemann says. "People need to categorize something and make generalizations about it." Forget the category, she advises. "Instead, ask yourself: What is the specific business problem I'm trying to solve, and will this help me do it?"

5

**Will it pass the Mom Test?** "We call it the 'Mom Test,'" Wettemann says. "To be able to get employees to use a new technology effectively, they have to be able to understand it and what its benefits are. So if you couldn't explain it to your mom and have her make sense of it, you shouldn't be spending money on it."

— MINGA ZETLIN

Saying no will often leave a CIO wondering what might have been. But in the case of the leasing software, Weeks got a definite answer. Some time after taking a pass on the system, he took a job at a different company — one that had already implemented that software. Sure enough, "the vendor had oversold and underdelivered," he says. "It was supposed to work in all of Europe, but they had only completed the program for one country, and even with that one we needed manual workarounds."

Weeks spent the next five years working with the vendor as it gradually developed its product to the point that it offered the functionality originally promised. "Fortunately, the CEO had mandated that this be a fixed-bid contract," he recalls. "The contract said what the software was supposed to do, and we would have an annual conversation about how it wasn't quite there yet." Manual workarounds were put in place initially, and a triage approach was established with the vendor, so that the problems that were the biggest productivity drains would be fixed first. The other costs were people and travel. The business unit was headquartered near London, and most of the IT team was based in the U.S., so travel to the U.K. was required several times a year.

The original decision to forgo the leasing software "was one of those cases where you say, 'Wow, I made the right decision!' Although I wound up inheriting the problem anyway," says Weeks, who today is senior vice president and CIO at SquareTwo Financial, a Denver-based asset recovery and management company with annual revenue of about \$227 million.

Unfortunately, it's rare that a new technology is as clearly not ready for prime time as the leasing software that Weeks encountered. Most products and services look good — on paper. And most come with clear case studies that show how they will help boost your company's ROI — again, on paper.

In the real world, those calculations can be tough to make (see "Hype vs. Reality," at left). Nevertheless, IT executives must decide every day whether to invest in a great-sounding new technology, or leave it alone. Sometimes, products that are well designed and work great — and might even create value for your company — are still not a good investment. Here are four good reasons to say "Thanks, but no thanks!" to an enticing new offering.

## It's Too Early

"Timing matters," says Rob Meilen, vice president and CIO at Hunter Douglas North America. The Pearl River, N.Y.-based company, which makes window treatments, is part of the Hunter Douglas Group, headquartered in the Netherlands, with annual revenue of more than \$2.4 billion and more than 17,000 employees worldwide. "You look at a product and say, 'Good idea, but not now,'" Meilen says. Though he does point out that "no may not be the same as never."

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evolves,  
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skills to manage  
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innovations and how  
to adapt.



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In addition, he noted, most smartphones at the time didn't contain the Near Field Communication, or NFC, chips required for Google Wallet to work. "I look back at that, and it was the right use of our resources at the time," he says. "That's not to say that same piece of technology wouldn't be a good fit somewhere down the road, as NFC chips in phones become more common."

In general, CIOs agree, it's probably best not to be a truly early adopter. "A lot of organizations I work with don't want to be on the bleeding edge," says Rachel Dines, an analyst at Forrester Research. "Before there are a lot of positive use cases to review, there's no good scientific way to sort out the hype from the reality. So while there's a lot of benefit in that approach, there's a huge risk, too."

## There aren't a lot of functions that own responsibility for taking risks, but IT and the CIO do.

ROB MEILEN, VICE PRESIDENT AND CIO,  
HUNTER DOUGLAS NORTH AMERICA

Kevin Roberts, CIO at Abilene Christian University in Texas, which has about 4,700 students, knows about early adoption risks firsthand. "We made a big run at document imaging," he says. "This was a long time ago, in the late 1990s. We had the whole paperless office mentality. We thought, 'We'll scan everything and sit at our computers and pull up whatever we need.'" The problem, he says, was tagging documents with metadata that would make them easy to find. "We spent a lot of money on this, and we had to walk away — we couldn't make it work," Roberts says. Today, he adds, the university has more robust document scanning and tagging capabilities, so some of that dream of a paperless office is now coming true. But "13 years ago, it wasn't the right time," he says.

### The Vendor Is Unproven

Many of today's most innovative new products are created by small, entrepreneurial companies. That's great news for the American spirit of innovation, but working

CIO at a national retail chain. In that position, he chose not to adopt an early version of Google Wallet. "The technology had some promise, but it wasn't well thought through," he says. "It would have worked well on the consumer's phone, but Google was unprepared for how it was going to connect back to my enterprise systems."

with startups can make an enterprise CIO nervous. "In one case, we were going to be funding 100% of a company's payroll," Weeks recalls. "We had to wonder, 'Will they have other companies that use it, or are they going to go out of business as soon as we stop writing checks?'"

If that happened, the company might have been left with a great product, but no support or continued development. "There are ways around that. For instance, we could have said that as part of our agreement we could take over the source code if that happened," Weeks says. "But having developers work on someone else's code is very painful."

Weeks and his team decided to pass on the new product, and when they did, he recalls, "I remember the [vendor's] CEO saying, 'I'm going to call you once a week until you buy our product.' He only called for about three weeks." Sure enough, about a year and a half later, the vendor went out of business. "It was a company that wasn't solid from a financial perspective, even though they had a great product," Weeks says.

And even if the vendor offering a new product is on solid footing, switching away from a vendor you have a long-term relationship with can be risky. "You have to look at your partnerships," Weeks says. "Bringing in a new vendor will have a benefit in the short term. If you're looking at other products, your long-established vendors will be on their toes — they won't want you going to that product. But if you do it, will they be upset? If you were a high-profile client for them, you might not be as high-profile anymore. You might get less attention, less focus and less expertise. I'm not suggesting you should base your decision solely on that, but it's something to consider."

### We're Not Ready

Sometimes, both a product and its vendor have proven track records. It might be clear that this would be a solid investment — but your organization might be unprepared to take advantage of it. Recently, Jason Cohen, CIO at New York-based Diversified Agency Services (DAS), considered a move to the public cloud. But he eventually decided that DAS — a holding company for more than 190 of the world's largest advertising agencies and communications firms — wasn't ready.

"Our companies all have different IT footprints and different processes and procedures, so we determined there was a significant risk in moving to the public cloud," Cohen notes. "We realized we aren't mature enough for the move, whether for storage or email. Instead, our determination was, 'Let's build the best technology we know how and aggregate our IT approach. And then we may be ready later on.'"

Before adopting a new technology, Meilen says, it's important to determine whether your IT organization can take on all the tasks that an implementation would require. "If it's a small or young [vendor], do I have the skills in my organization to engage with them?" he says. "There are capabilities a large, well-established

tech company would bring that a smaller startup won't. I'll have to supplement those. I'll be teaching a young company how to come to market in the enterprise space."

### We Can't Handle It

Even if a technology is perfectly ready and could be perfectly useful for an organization, it may simply be something that IT can't take on. "I've been a CIO for 13 years, but in the recent past, it's become like the *I Love Lucy* episode in the candy factory," Roberts says. "There was a time when new technologies and new ways of doing things came along at an acceptable pace. I could take the time to make a thoughtful decision whether to invest in them. Now things are at such a rapid pace, I find myself making decisions not to invest in this, or to stop doing that."

Getting these calculations wrong can have dire consequences. "One company decided to make a \$10 million investment in SAP over three years," Weeks recalls, of a former employer. "They were going to take it out of the operating budget, rather than finance it. The company was in a cyclical industry and the second year, it hit a recession. It wasn't going to make any money that year. They fired the CIO, saying, 'It was a bad decision to start this project when you did.'"

This happened not with an unproven newfangled idea, but with a solid technology that would unquestionably have created benefits. "If they'd been more conservative in their approach, perhaps implementing it in stages, that project would have been a lot more successful," Weeks says.

### And When to Say Yes

There are many excellent reasons to say no, but doing so too often can hurt you. If you wait too long on a new technology, you might lose competitive advantage or spend too much on old systems. For example, Cohen acknowledges that "we may have waited a bit too long on virtualized storage and wound up investing a little more in hardware than we needed to."

The risks can escalate the longer you wait. "I see a lot of companies that are still highly mainframe-based because they've never gotten away from their core software," Weeks says. "The problem now is finding people to support that environment. I don't think there are a

lot of people coming out of college saying, 'I want to support mainframes!'"

"Someone early in my career said to me that part of the role of the CIO is knowing which frogs to kiss," Meilen says. "You have to try out some new things. But if you're not clever about which ones, you're going to waste a lot of time and not get much



Bill Weeks

## 'Hey, I Was Reading An Article...'

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**MOSE SIX WORDS** strike fear into the heart of many CIOs. It happens like this: The CEO or CFO reads an article about an interesting new technology and directs you to implement it — without knowing any of the details. What do you do if you know it's not a good fit?

"CIOs struggle with communicating both upward and downward," says Jason Cohen, CIO at Diversified Agency Services. "Some CIOs I talk to tell me, 'The CEO dropped it in my lap and I have to do it.' I say you aren't doing your organization or your CEO justice unless you fully explain the pros and cons."

The secret is to carve out pieces of information the CEO can understand. Cohen says he'd approach it this way: "I might say, 'I read that article, too — about transferring files through the cloud. But did you know the average file size for an advertising agency is much larger than for a manufacturing company because of the large graphics? That's why that doesn't work for us.'"

Bring-your-own-device mandates can be particularly challenging. "Executives always ask, 'Can I use my iPad?' " says Pete Lee, engagement manager at SWK Technology Partners, which provides IT services to midsize businesses.

BYOD programs offer many advantages. "But they can kill IT staff, because they have to manage so many different things," he says. "If you implement BYOD, there will be more cost for managing those devices and more licensing costs."

The best approach is to make sure upper execs understand those costs. "Every executive responds to ROI," he says. "If you can compare the return on investment with what it will cost to implement BYOD, they can make the right decision."

Knowing that an article that a CEO has read could land on your desk at any moment should serve as a motivator to stay informed yourself. "The best approach is to stay ahead of it," says Rachel Dines, an analyst at Forrester Research. "You need to be reading the same magazines, so when the CEO drops an article on your desk and wants to implement this whiz-bang thing, you'll already have looked into it and talked it out with your reports. You'll be ready to say, 'Yes, we've been thinking about suggesting this' or 'No, we can't, and here's why not.' The worst thing is to be blindsided."

And, she says, make sure you're not doing the same thing to your own IT organization. Make sure you get buy-in from every segment of IT before committing to a project. "When I see an implementation go wrong, it's usually because someone from above mandated it," she says. "I see that more than you might imagine. Something is brought in all of a sudden, and the infrastructure folks are saying, 'I wish someone had asked me because this doesn't jibe well with the technology we have.'"

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And so, he says, it's imperative to keep trying new things, even if some of them wind up as failures. "By playing it very safe, you're not serving your enterprise as fully as you could be or should be." •

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# The Science of Customer Loyalty

**Guesswork no longer cuts it for companies trying to secure customer loyalty. Read how three businesses use analytics software to understand, respond to and even predict buyer behavior. BY MARY BRANDEL**

**I**N TODAY'S INTENSELY COMPETITIVE and fast-changing marketplace, companies can no longer rely on gut instinct, guesswork or "business as usual." Across all industries, businesses are turning to data analytics to quickly and accurately respond to and even predict buyer behavior in their quest to grow revenue while securing customer loyalty.

The desire to engage with customers more effectively is fueled in part by what many see as a shift in power from sellers to buyers, thanks to social media and the

rise of mobile computing. In IBM's most recent Global CEO Study, in fact, more than 70% of CEOs said they were seeking a better understanding of individual customer needs and improved responsiveness to those desires. And according to IDC research, the global market for business analytics software grew 14% in 2011, compared with 11.6% the year before, and is slated for 9.8% compound annual growth between now and 2016.

Here is a look at two companies that are striving to capture the loyalty of their customers through the use of analytics.

## T-Mobile: Combatting Customer Churn

For wireless providers, customer churn can be a killer. According to research from Strategy Analytics, at the end of 2011, the percentage of mobile customers who switch service providers every year reached 44%, its highest level ever.

T-Mobile is one carrier that has been feeling that pain. Dwarfed by AT&T and Verizon Wireless in market share, the company was losing one customer for every customer it gained in early 2012, according to a statement by former CEO Philipp Humm earlier this year. To offset that trend, T-Mobile is digging into its customer data to better understand buyer behavior and more precisely target customer needs.

"Customers have so many dynamic options right now," says Alison Bessho, director of IT enterprise systems at T-Mobile. "They can easily get intrigued by something new with a different company, so in order to keep them happy, we're always looking for creative ways to give them something new and different."

To that end, T-Mobile uses a Teradata database and analysis tools from SAS to collect and analyze customer data, including current plan rates, the number of family plans versus individual plans, credit ratings, network usage metrics and statistics comparing the amount of talking time and the amount of texting time. It then segments the customer base, builds focused campaigns for different customer profiles and presents offerings via its various sales channels, including stores, call centers and websites.

The marketing team then analyzes how customers respond to these campaigns to project financial returns and fine-tune the offers. To do that, it feeds data into the Hana real-time data analytics appliance from SAP, which uses in-memory computing to perform rapid analytics on large data sets. This allows statistics modelers and business analysts to query the data and — if they find something unexpected — query further, without involving IT.

"You don't have to pre-think what types of analytics you're going to do or pre-build the aggregation tables that you build with traditional BI solutions," Bessho says. Plus, the data can be loaded more quickly into the appliance than it can with traditional analytics platforms, and the queries run 55 times faster than with a traditional database. That speed encourages analysts to explore creatively, she says.

"A lot of the benefit is finding the unknown," Bessho says. "They get a surprising result, and they want to drill down into the data in ways they never anticipated. So it's important that the tool is responsive and cuts through rows of data quickly."

Analysts can now determine the types of campaigns that work best for various customer groups. "We now know how to go to different customers with [different] offers," Bessho says. For instance, one way to segment customers is by how close they are to the end of their contracts. Knowing this — as well as what type of plans they have, what their credit scores are, and where they live — T-Mobile can, for example, send phone upgrade offers to long-term customers and offers for different rate plans to newer ones.

These offers can go out via text message, email, the call center or

physical stores. "When the customer is on the phone or walks in the store, we get more fresh data about them to help reps select the best offer at that specific time," Bessho says. "We can take advantage of historical data, as well as dynamic data, to create personalized, focused offers based on customer trends and behaviors."

T-Mobile also uses tools from Business Objects to produce dashboards and detailed operational reports for marketing leaders. It will soon launch a mobile business-intelligence capability so marketing execs can view the current performance of marketing campaigns on their tablets.

T-Mobile still faces challenges, including the need to recover from its failed buyout deal with AT&T and the June departure of its CEO. But the company is betting on customer insights to bolster its future prospects. It plans to add 300 more customer data attributes to the system to deepen and broaden its analytic capabilities, and it will add input from social media as well. In the first quarter of 2012, T-Mobile saw 187,000 net customer additions, compared with 99,000 net customer losses in the first quarter of 2011. "Our goal is to reduce churn, enhance loyalty, upsell and cross-sell new devices and rate plans, and make customers happier, while achieving better financial results," Bessho says.



Customers don't always see it coming. They never anticipated. So it's important that the tool is responsive and cuts through rows of data quickly.

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## SuperValu: A New Approach to Loyalty

For grocers, the concept of "loyalty" has historically been tied to the "loyalty card" — those ubiquitous laminated cards that give shoppers automatic discounts. But market forces are driving grocers like SuperValu to kick their customer loyalty games up a notch. According to Wesley Story, group vice president of consumer insights and loyalty at SuperValu, competition is heating up, especially as more types of retailers — from big-box stores to discounters — add grocery items to their shelves. About two years ago, SuperValu launched an effort to

become more customer-centric by creating a hassle-free shopping environment, offering more freshly prepared foods and matching product lineups to local tastes.

Customer data gathered from loyalty cards is key to this strategy, Story says, because it reveals buying trends and demographic shifts. "If you're not careful, all of a sudden the customer that was your target no longer lives around you," he says.

According to a study by RIS News and IDC Retail Insights, localizing merchandise and personalizing interactions has pushed business intelligence and analytics — in particular, in-memory data appliance and grid computing capabilities — to the top of the priority list for grocers concerned about customer loyalty.

SuperValu has long used a Teradata data warehouse and traditional BI tools to analyze transaction and customer data. But it recently set up a big data analytics lab to accommodate faster, more complex, ad hoc queries against all types of data, including unstructured data from social media. The lab's tools include Teradata's Aster appliance, which collects data from operational systems and puts it in a nonproduction database optimized for analysis; Hadoop, an open-source analytics platform that uses

## OBERWEIS DAIRY:

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**UT-FEEL DECISIONS** are no longer enough for businesses today, even for a nearly 100-year-old, family-owned company like Oberweis Dairy. Based in North Aurora, Ill., Oberweis operates more than 40 ice cream/dairy stores, a wholesale

distribution business and a home delivery business. In 2010, when the company needed to make some changes, it invested in a system from SAS to make sure its efforts would pay off.

So far, the system has helped Oberweis improve customer retention in its home delivery business and increase store profitability and service times, according to Bruce Bedford, vice president of marketing. "We're blessed with tremendous customers who are brand-loyal, but it's also because we maintain an emphasis on the highest-quality foods, listen to their needs and respond quickly," he says. "In that effort, analytics tools have been tremendous."

Oberweis turned to analytics when it discovered a customer attrition problem in its home delivery business. The company reaches out to customers through direct mail, door-to-door visits and the Internet. Bedford says that many customers who signed up for home delivery in response to direct mail campaigns and door-to-door visits canceled the service after 180 days, but that was not the case for those who responded to Internet campaigns. The Internet was the only channel through which the company did not offer a \$100 discount in the form of free deliveries for six months. The marketing team hypothesized that attrition rates spiked at 180 days because the value of the free-delivery offer had been depleted at that point.

To counter this trend, Oberweis devised a new promotion that of-

fered identical savings of \$100 but through a yearlong reduced charge of 99 cents per delivery. After determining that the response rates for the two offers were the same, the company tested their respective effects on customer loyalty. The results were dramatic: Among customers who responded to the 99-cent offer, there was a 35% improvement in the retention rate at the nine-month mark, "which is worth millions of dollars in incremental revenue gain," Bedford says.

Analytics also enabled Oberweis to speed service in its stores. "Customers were getting up to the cashier and not knowing what they wanted to order," Bedford says. The culprit, the marketing team determined, was the menu board. "We never designed it with the intention of getting people through the line efficiently," he says.

So last fall, the marketing team came up with four designs that led customers through the decisions of ice cream serving size, flavor and cone type, and featured images of six popular sundaes. The designs also highlighted products with high profit margins. "We didn't want to guide someone toward a simple sundae or traditional ice cream cone instead of our waffle cone, which is an upsell," Bedford says.

Using SAS modeling, the company tested the designs in several stores. When the best one was rolled out, Oberweis saw an average profit increase of 3% on fountain purchases and an estimated 30% improvement in service time during peak hours. "It's good for the customer because it's an uncomplicated and quick experience, and we've been able to drive incremental profitability," Bedford says.

Through predictive analytics, Oberweis has also determined that store customers who intend to purchase just a bottle of milk are most receptive to offers of discounted quarts of ice cream. "Before, we had no idea that would be beneficial to do, but we saw a dramatic increase in quarts of ice cream sold when store staff was trained to offer a dollar discount," Bedford says. "The story was lying there in the data, and by combing through it with the right tools, we could draw it out."

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parallel processing to quickly analyze large data volumes; and a visualization tool from Tableau Software designed to rapidly deploy dashboards that mash up various types of data, including information from external sources.

With this setup, SuperValu no longer needs to know how data will be structured or what questions it needs to ask. "If a query doesn't work, we can just throw it away because the investment is minimal versus weeks and months of development," Story says.

The grocer is already better able to keep popular items in stock by studying out-of-stock data from its inventory management system, peak shopping times from its transaction data, staffing levels from the labor management system and customer perceptions from its "voice of the customer" system. It has determined that certain stores needed to add a midday restocking shift to accommodate the rush of traffic between 4 p.m. and 6 p.m. "Some of this is Retail 101. But before, we didn't know exactly what the staffing levels needed to be at what stores or what the customer perception levels were," Story says.

Analytics also enables SuperValu to engage with customers through the most effective medium, be it email, text messaging, mobile apps or social media, Story says. The old-school approach

was to ask customers which channel they prefer; however, it's far more accurate to watch their behavior, he says. So, for a highly digital customer, you increase activity where they respond the most — maybe text and social media — and drop it in the media where they're less active, like email and snail mail.

Predictive analytics is the next step, Story explains. The grocer is experimenting with segmenting customers and predicting their behavior by overlaying loyalty-card data with demographic, psychographic, behavioral and economic information from external providers. By seeing, for instance, the effects of the recession on shopping patterns, SuperValu can better predict which customers will switch to lower-priced items during a downturn and proactively market store brands to them. The company is also reaching out to digitally savvy consumers via mobile apps and social media.

"That's the secret sauce," Story says. "Bringing it all together to understand what the redemptions are, how we offered them, through which vehicle, where they [were] redeemed, which [channels] customers are most active in — and their social media influence if they are a highly connected consumer." •

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# WHAT YOUR Interns CAN *teach* YOU

JUSTIN LEWIS / GETTY IMAGES

## CAREERS

Interns aren't just for grunt work anymore. ***When properly managed***, they can bring new insight to IT problems and processes. **BY TAM HARBERT**

**IT'S SUMMERTIME**, which means legions of eager, fresh-faced interns are ensconced in IT departments across the country, hoping to get real-world experience, or at least something that will look impressive on their résumés.

Some will have less-than-ideal experiences.

Rather than coding or developing apps, they may spend the summer filing or wiping hard drives destined for recycling.

Alex Kern, an 18-year-old from Santa Monica, Calif., is decidedly not in that camp. He spent last summer helping a team at the Jet Propulsion Laboratory (JPL) in Pasadena, Calif., develop software that NASA will soon use to store data in the public cloud. And Kern's name is on the patent application.

"My internship was hands-on — creating stuff and helping JPL achieve its goals," says Kern, who graduated from high school in May and will start his undergraduate studies at the University of California, Berkeley, this fall. "Most of my friends were just thrown into internships, usually just following someone around and doing lots of busywork."

As Kern's experience implies, employers that give IT interns more opportunities stand to gain much more in return. Interns can bring valuable insights and new skills to their employers.

"They bring in a fresh perspective, and they are far more current on new technologies, such as social networking," says Suzanne Fairlie, president of ProSearch, an executive search firm that focuses on IT and finance. "It's part of their DNA."

But in order for organizations to reap those gains, Fairlie stresses that internships require planning, and the interns themselves need personal attention: "When [internships] work well, it's because someone internally in the company is identified to take that intern or group of interns under their wing," she says.

Rather than just using interns as cheap (or free) summer help, organizations must treat internships strategically if they want to gain true insight from them. They should plan and structure the intern experience, take care to match interns' interests and experience with suitable projects within the company, listen to what interns have to say and — most importantly — give interns room to run.

"The key to all of this is to give the students something meaningful to do, something that actually gets

is to give the students something meaningful to do, something that actually gets used or at least tried. Something that's not a make-work project.



used or at least tried," says Tom Soderstrom, CTO at JPL. "Something that's not a make-work project."

Computerworld gleaned details from three organizations doing just that, and reaping the rewards season after season: JPL, the White House's Executive Office of the President and utility company We Energies. In each case, the employer invested time and personnel, in both planning the internships and in working with the interns themselves. And in each instance, the organization was rewarded with innovative ideas, increased efficiency and, sometimes, talented full-time employees.

Here's a look at how JPL and some other employers have turned their interns into assets.

#### JET PROPULSION LAB

- **Lesson learned:** Challenge interns, but keep requirements loose enough to encourage innovation.
- **Value gained:** Patent applied for; intern-developed software in process of being deployed.

JPL is a poster child for great internships. That's probably not surprising, as education is one of the missions of this federally funded research lab that's managed by the California Institute of Technology. It has 30 programs and brings in some 500 students (from both college and high school) during a typical summer, according to Paula Caterina, group supervisor of university recruiting in human resources at JPL.

What may be surprising is some of the extent to which interns are allowed to not only stretch their intellectual wings, but also work on real projects that are used in real NASA missions.

The emphasis on internships comes from the very top. JPL Director Charles Elachi started as a graduate student summer intern more than 35 years ago. "He's always stressing that we need to capture the imagination of the students and JPL as an innovative, fun, exciting place that's always coming up with new research," says Soderstrom.

Indeed, on the JPL website, Elachi says interns are the future of JPL. "I consider student employees to be among the lab's most important and valued staff members," he says. "They are often the source of many new ideas because nothing seems impossible to them, and that's right in line with our line of work. We

are in the business of making the impossible possible."

Both Kern and a fellow intern — 18-year-old Andres Riofrio, who had just completed his freshman year at UC Santa Barbara — so impressed their JPL mentors with their research that they were asked to give a talk on cloud computing to the entire lab. "Both Alex and Andres were doing things that are significantly more advanced than what a lot of the rest of the people in the lab were doing," says Khawaja S. Shams, lead cloud architect at JPL.

That's what happens when you give interns room to run, says Shams. "Very often, students surprise us and come up with a better solution than what we had originally thought," he says. In the case of the cloud software that Kern worked on, the idea was so good that JPL has applied for a patent and is in the process of integrating the software into a cloud-based data backup pipeline for future NASA missions.

#### EXECUTIVE OFFICE OF THE PRESIDENT

- **Lesson learned:** The best results come from projects with contained scope.
- **Value gained:** Improved efficiency and effectiveness of everyday office tasks that formerly frustrated rank-and-file employees.

On the other side of the country, interns are making a difference in the halls of government, including the White House's Executive Office of the President. In fact, because one CIO took the time to listen to an intern, the White House has launched a new IT-focused internship program.

Early in 2011, David Gobaud approached Brook Colangelo, CIO of the Executive Office of the President, with a proposition. Gobaud, 28, a Stanford University computer science graduate, had a White House internship unrelated to IT — he was conducting fact-checking and research for the Council of Economic Advisors.

As part of that work, Gobaud had noticed some business process inefficiencies and started, on his own, to automate some of them for employees. For example, he noticed that staffers were manually updating spreadsheets weekly. They would copy and paste data from one spreadsheet to a master spreadsheet, extending rows and manually updating charts — a time-consuming and error-prone process.



"I created a macro that turned this into a single workflow," says Gobaud. "Click a button, select the new data file and click OK."

Gobaud talked with his supervisor and then proposed to Colangelo the idea of creating a team of IT interns who could identify more areas where such small-scale automation could improve efficiency throughout the White House. Colangelo liked the idea. He named it the Software Automation and Technology (SWAT) team and asked Gobaud to help manage it. They selected four interns for the first session, which was last summer.

The SWAT team worked with Colangelo's enterprise business solutions staff, which focuses on application development and solving business problems. The interaction with real business users was a valuable experience for the interns. "We would watch people perform various tasks and listen to what frustrated them, what was consuming their time," says Gobaud.

Users may have one solution in mind while being unaware of other technologies or techniques that can help, says Colangelo. For example, they may not know that macro templates can make publishing memos quicker and easier. "Our job as technologists sometimes is to say to people, 'I hear what you are asking for, but have you thought about X, Y or Z to solve the problem instead?'"

The team first gained an understanding of the customers' objectives and needs, says Gobaud, and then proposed a way to improve the process and, with customer approval, started developing. "We used an agile development process and worked to get a beta version to the customer ASAP," he says. "We would then iterate and continue development while getting feedback from the users."

The program has been expanded to seven interns this summer, and Colangelo thinks that it just might inspire some IT students to go into government.

Already, it has reinforced Gobaud's goals. "I saw the amazing ability that technology has to revolutionize internal government operations and create a lean, effective federal government," he says. "Working at the White House cemented my career goal of becoming a government technology leader."

## WE ENERGIES

- **Lesson learned:** Put some teeth in your internship program by asking managers to justify student positions, not merely fill them.
- **Value gained:** New hires already steeped in company culture and corporate values.



In years past, We Energies, a utility company that provides electricity to parts of Wisconsin and Michigan, hadn't put much effort into its summer opportunities for students, typically starting the process too late to recruit the best candidates.

Recognizing that both the company and the students could be getting more out of the partnerships, We Energies revamped its program a couple of years ago to make a distinction between IT interns and student summer workers, according to John Brewer, service desk manager at the company. "We wanted to turn [internships] into a program rather than just a summer hiring exercise," he says.

The company now has a formal IT internship program that runs for two summers, with three to four students joining the program each year. Meanwhile, it continues to hire other students to work in less specialized summer jobs. The new program gives interns an opportunity to shine and gives the company an opportunity to hire top performers.

One change involved asking IT managers to give a business justification for hiring interns. Rather than just hearing that the managers hope to bring in

students, "we want to hear what they plan to do with them," Brewer says. "We want to make sure that it isn't just grunt work." This approach not only makes better use of interns, but also ensures that they are matched with projects that suit their skills and aptitudes.

The company also extended the program over two summers, giving interns more opportunity to work in different parts of IT and also giving the company a longer window for evaluating their potential.

"Since December of 2011, five interns have graduated from school; all five have been offered permanent positions, and all five have accepted those positions within our IT department," says Brewer.

One such intern was Scott Sullivan, now 24 and an associate IT application consultant for We Energies.

"Through my internship, I was able to apply my appreciation and passion for IT to initiatives that support critical processes and functions," recalls Sullivan, who spent one year in the old summer worker program and one semester as a new IT intern. "I was given the opportunity to join the application support team and participate in an ongoing companywide software upgrade."

"They haven't seen any limits yet," says JPL's Soderstrom. "What we have to do as managers is to harness and support that energy, and of course, when they break a few eggs, help them clean it up." ■

**Harbert** is a Washington, D.C.-based writer specializing in technology, business and public policy and a frequent Computerworld contributor.

# Security Manager's Journal

MATHIAS THURMAN

## Ask, and Hope to Receive

**I T'S BUDGET TIME AGAIN**, which is a good chance to assess our information security defenses and decide which areas we can best afford to beef up. Here's a look at what I think we'll be able to add this year.

First, I want to increase our investment in security incident and event management. SIEM has been a great investment thus far, helping us thwart attacks and identify other malicious activity that could have resulted in the loss of sensitive data, unauthorized access or a denial-of-service attack on our network. I can point to a lot of things that justify further investment. My plan is to expand our license and add more network sensors to remote offices. The return on those investments will be that more data will be correlated with additional log and netflow feeds from network and server resources.

Next, I want to upgrade the security assessment tools that automatically scan our DMZ infrastructure on a weekly basis, as well as satisfy our regular audit and assessment schedule of internal apps and infrastructure. Our current tools, though fairly effective, lack some

of the rich functionality that Qualys, rCircle and Rapid 7 offer. Any of those would give us a more robust, centralized management console, integration with other tools and better reporting options. The productivity gains that these products would make possible are a selling point; the tool we end up choosing should pay for itself in short order just in the area of collecting security compliance data each quarter.

Then there's data leak prevention (DLP). When we implemented DLP earlier this year, our budget didn't allow for any decryption infrastructure. A main feature of DLP is that it can detect documents being sent via Web-based apps such as webmail and personal storage sites, but we need to decrypt the SSL traffic before our DLP tool can inspect the data. In addition, we recently migrated our Exchange deployment to Microsoft's Office 365 cloud offering, so now even our corporate email is encrypted. All of that means we need to buy proxy appliances and then send all our Web traffic to them for decrypting ahead of going to the DLP engine for in-

the discussion about  
security at [computerworld.com/  
blogs/security](http://computerworld.com/blogs/security)

**I know I'm pretty lucky. Not every security manager can ask for so much and hope to get it.**

30 COMPUTERWORLD AUGUST 13, 2012

## Trouble Ticket

» It's time to make the case for funding in the 2013 budget

» Prioritize the company's security needs, and have justifications at the ready

specification. We'll be looking at either Cisco or Bluecoat to satisfy this need.

Another area that we need to address is protection against advanced persistent and zero-day threats. We're on schedule with a proof-of-concept of FireEye, as we seek to understand the value of this type of investment. If the pilot is successful, our plan is to buy a few appliances for our larger offices, but complete enterprise coverage would require an appliance at each of our more than 40 remote offices. If FireEye doesn't fit the bill, we'll look at other technologies, including WildFire, which is already bundled with our Palo Alto Network Firewalls.

Each quarter, I spend about \$30,000 for outside firms to conduct penetration testing and give us an independent viewpoint. One recent penetration test of our IP telephony infrastructure identified several critical configuration issues. I would like to double that budget line in 2013, mostly because we are expanding our use of cloud technologies and will need more assessments to keep up.

As for staff, I'll have a harder time. I'm fortunate in being allowed to fill an open position for a security analyst, but I could always use more people. The good news there is that my company just announced a summer internship program. At nominal cost, I can hire a college intern for the summer. I'll be asking for two.

All in all, I know I'm pretty lucky. Not every security manager can ask for so much and have a reasonable expectation of getting it. Still, our security spending remains small, both as a percentage of the overall IT budget and in terms of security spending per employee. ♦ This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at [mathias\\_thurman@yahoo.com](mailto:mathias_thurman@yahoo.com).



# Security Manager's Journal

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Our manager has a long wish list as the annual budget time rolls around once again.

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OPINION

# S.J. VAUGHAN-NICHOLS

## Can Android Tablets Finally Take On the iPad?

Good as the Nexus 7 is, the real game-changer is Android 4.1, known as Jelly Bean.

**D**O YOU REMEMBER APRIL 2010? That was when the tablet market sprang to life.

Tablets had been around for more than a decade, but hardly anyone outside of certain vertical industries (utilities, for example) had noticed them. When Apple released the iPad in April 2010, everything changed.

The iPad wasn't destined for some niche market: it was an object of desire. Apple claimed that it sold 300,000 iPads on the first day that it was available. No other vendor had technology that could come close to competing with iOS on the iPad.

Many tried. There was the now largely forgotten Moblin operating system, RIM's PlayBook OS, Intel and Nokia's short-lived Meego, Chrome OS and, of course, Android, most promisingly realized in the Samsung Galaxy Tab 10.1. None of them was good enough to seriously compete with Apple, in either 2010 or 2011.

But now it's 2012, and at long last, we have a contender: Google's Nexus 7, running Android 4.1. Until now, the most successful Android tablets were actually e-readers, like Barnes & Noble's Nook and Amazon's Kindle Fire. The Nexus 7 is something much more.

While we don't have hard numbers yet, the Nexus 7 has been selling at the kind of frantic rate not seen outside of Apple devices. Thanks to Android, the Nexus 7 has certain advantages in software selection, customization possibilities and built-in apps. It also has a significant advantage in price: The Nexus 7 costs \$200 less than the iPad 2.

### Beyond the Nexus 7

If this were just a battle between the iPad and the Nexus 7, I wouldn't be writing this column. I happen to like both devices, and I could argue in

favor of either one. I prefer the Nexus 7's smaller size, but I can certainly understand why someone else would want the larger iPad, especially with its Retina display (which, of course, makes the price difference even larger).

No, the real game-changer is Android 4.1, known as Jelly Bean, which will also power Amazon's forthcoming Kindle Fire, which will be much more than a mere e-reader, with its quad-core processor, front-facing camera, micro USB port and bigger, better display. We can also expect to see Jelly Bean in a new model of the Nook, and then the floodgates will open. I expect to see many good Android tablets with 4.1 under the hood, in sizes ranging from the now popular 7 inches to an iPad-matching 10 inches. And good or bad, all of them will be priced below the top-of-the-line iPad.

As we head toward the 2012 holiday season, I expect iPad to finally have serious competition from Android tablets. I suppose it's possible that Microsoft, with its Surface and Windows 8 tablets running on x86 processors and Windows RT tablets running on ARM processors, could be a contender as well, but I don't foresee that. Android and its various hardware vendors have just spent the past two years showing how hard it is to compete with Apple in the tablet market; Windows is too late to the game to compete in this round. It might catch up later, but right now the story is Android. ♦

**Steven J. Vaughan-Nichols** has been writing about technology and the business of technology since CP/M-80 was cutting-edge and 300bps was a fast Internet connection — and we liked it! He can be reached at [sjvn@vna1.com](mailto:sjvn@vna1.com).



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Source: \*Harvey Ad Measurement Study, Computerworld May 30, 2010

# Career Watch



Q&A

**Allan Boardman**

## Certified in Risk and Information Systems Control

**What does a certification in risk and information systems control cover?** CRISC is for professionals who have experience in developing effective controls to manage IT risk. They are the individuals in an enterprise who provide guidance to management on the impact of risk and its effect on business operations and the overall health of the enterprise. They are also responsible for communicating the risk to others throughout the business by establishing a common language for the enterprise.

CRISC, which is based on independent market research and the input

of subject-matter experts around the world, is designed to help meet the rising demand for professionals who understand business risk and have the technical knowledge to help achieve effective controls. CRISC certified professionals have the tools and knowledge to develop a common perspective and language for IT risk within an enterprise.

**How does certifying help fill an IT skills gap?** Certification provides the enterprise with the confidence that those holding certifications share a similar level of experience and knowledge. Certification can help hiring managers more quickly categorize job candidates by skill level, which is especially important in areas where there are skills gaps or high-growth areas with a large volume of job applicants, not all of whom are equally qualified.

The CRISC professional is able to provide value to an organization by providing insight from an overall organizational perspective on both IT risk and control. The CRISC certification is recognition of that skill and knowledge.

**What sort of background is helpful for this type of certification?** The CRISC credential is for those who are experienced in both risk and control. The areas of the job practice cover five domains: Risk identification, assessment and evaluation; risk response; risk monitoring; information systems control design and implementation; and IS control monitoring and maintenance.

Experience is required to become certified. Individuals need verified evidence of at least three years of work experience in three of the domains for risk management and IS control.

**How might this training and certification help a person understand IT risk management as it applies to overall business process?** The focus of the CRISC certification is on the IT risk professional gaining the tools and knowledge to evaluate the enterprise as a whole. Effective enterprise risk management requires an integrated and holistic approach. The first three domains that CRISC focuses on—risk identification, assessment and evaluation; risk response; and risk monitoring—provide the framework, from an organizational perspective, for managing and mitigating IT risk across business processes and technology. In addition, CRISC gives risk professionals a common language for communicating within IT and with the greater enterprise about risk. Based on the input from the CRISC professional, enterprises are then able to make effective risk-based decisions and prioritize efforts and resources to those areas that are most at risk.

## SILICON ALLEY SURGING

A study called "New Tech City" makes the case that New York is becoming an important hub of the digital economy. The report, from the Center for an Urban Future, notes that, while there is no way to know how many digital startups have been formed in the city, 436 that were founded in the past five years have received angel, seed or venture capital funding. The report's authors estimate that the actual number of technology startups is well above 1,000. Overall, Silicon Alley is still

well behind Silicon Valley as a center of technology entrepreneurship, but New York has surpassed Boston as the No. 2 tech hub in the country.

One metric that shows the rise in prominence for technology in the city is employment growth, with IT growth outstripping the average for the city and many of its traditional economic mainstays. Similarly, a comparison of venture capital activity in New York and other U.S. technology centers offers a sense of the area's economic vitality.

### New York Job Growth, 2007-12 IT vs. other sectors

	28.7% <sup>1</sup>
City average	3.6%
Broadcasting	0.4%
Securities industry	-5.9%
Legal services	-7%
Publishing	-15.8%
Manufacturing	-29.5%

### Growth in Venture Capital Deals by Region, 2007-11

	32%
U.S. average	-11%
Silicon Valley	-1%
Los Angeles/Orange County	-6%
New England	-14%
Texas	-17%
San Diego	-38%

SOURCE: THE CENTER FOR AN URBAN FUTURE'S "NEW TECH CITY" REPORT, MAY 2012

PHOTOGRAPH BY MANNHEIM BY ANCHORD





# Career Watch



Q&A

## Allan Boardman

*The chair of ISACA's  
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SOURCE: THE CENTER FOR AN URBAN FUTURE'S "NEW TECH CITY" REPORT, MAY 2012



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Partnership Tech Mgr. (Mountain View, CA)

#1615.1826 Drive strategy & lead that enables Google's prod through partnerships. Exp incl: Java, C, or C++ for launched prod, proj mgmt for small-to-med scale implement or submodule within a complex sys; internal stakeholder or external cust interaction while dev prod; mgmt w cross-funct teams, w focus on launch of new prod & s; analyzing tech aspects to a non-tech audience. Tech Solutions Eng (Mountain View, CA)

#1615.1245 Integrate Google prod with customer tech. Exp incl: web tech incl: HTML, XML, XSLT and CSS, white product, incl DNS, FTP, SSH, TCP/IP, Python, sys administration, & shell scripts, eg Bash, Korn, & lead tech team.

Site Reliability Eng (Mountain View, CA)

#1615.0056 Provide tech support to ensure full availability of Google online sys. Exp incl: C++, multithreading; Python; Shell; process sched; monitor & alarm; synchron; dist sys; load & perf test; no analysis & design; & platform; exp, oper sys; Kernel & Linux & Java.

Sr Analyst, Partner Strategy & Analytics (Mountain View, CA)

#1615.1332 Work w or leadership within Google to define & solve major strategic quest. Exp: incl strategy or oper at consult firm, investment bank, or Fortune 500 co; & lead op or strategic initiatives; & social network space & online ad.

Database Admin (Mountain View, CA)

#1615.1192 Manage databases & database app for various internet search engine on prod. Exp incl: Oracle & Business Suite app; Oracle Appli Server R1 & 10g; Oracle Database 10g & 11g Oracle RAC; & Linux.

User Interface Design (Mountain View, CA)

#1615.3598 Define the user model & user interface for new & existing Google products & features. Exp incl: CSS, HTML, Adobe Photoshop or Fireworks & leadership of a user-centered design process.

Tech Acc Mgr (Mountain View, CA)

#1615.3422 Create & implement tech acct strategies & support expansion of Google partnerships. Exp incl: Internet prod & tech; incl database tech, network tech, HTTP, XML, HTML, Javascript, Unix or Linux; & no prod lang; cust-facing role.

Bus Ops & Strategy Assoc (Mountain View, CA)

#1615.731 Execute high level bus ops & w/strat proj defined by Googles exec team. Exp incl: quant analysis, & fin model & analyze massive amounts of data; B2C strat form for high-tech comp; analyze & telecom investments; strat consult proj mgmt; provide emerging mkt & industry insight; & ident emerg & disruptive bus & consumer trends.

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#1615.1875 web tech; C++; Java; Javascript; Python; HTML; CSS; adv algorithms & data struct; HTTP; sys design & dev; no prog; web appl dev; sys test; funct test; MapReduce; & BigTable.

#1615.1276 Internet Gateway Protocols (IGPs) exp. Incl: Internet Sys, Internet Sys (IS-IS) & Open Shortest Path First (OSPF); Border Gateway Protocol (BGP); Coarse Grained Shortest Path Div Multiplexing (CGWDM); opt transport sys; design & implement network sys using C, C++ or domain specific lang; design & dev ext to routing protocols; & analysis/synthesis of quantitative network measurements. Authorship of peer-reviewed publication in comp network field.

#1615.229 C or C++ Python; Java; data struct; algorithms; parallelized computations; multi-threading; agile prog; large scale dist file sys; & h/w temp.

#1615.2960 design, implement, test & maintain subsystems; dev. Jacript part optimize & self-modifying code; design & implement differentiating & merging algorithms for data struct in machine collaborative web app; dev & drive internal prog; manage open source prog; publish tech content for developer; provide end-user tech support; & reverse eng front-end tech.

#1615.3132 C++ & SQL; multithreaded programming; large scale data process; algorithm design & analysis; search team; & parallel & distrib comp SW Eng in Test Position.

#1615.2243 dev Java test automation.

The ICT project PlanetData has vacancies in the consortium for partners having comprehensive research and technological expertise in the area of large-scale semantic data management.

#### Specific topics in the thematic area

We solicit proposals for research projects that deal with any of the dimensions explored by PlanetData, with a special focus for this call on the combination of aspects related to data dynamics, quality and provenance, including access control, privacy and trust. Proposals should propose methods and techniques, as well as develop services and applications that consider any of these dimensions or combinations of them. Proposals may use existing data sets available as Linked Data, or open up datasets that fill a gap in existing publishing initiatives (in the context of the Linked Open Data Cloud or beyond) with respect to the types of data they cover (e.g., sensor networks, social media streams), or in terms of the quality of self-descriptive metadata available. Proposals may also aim at providing integrated repositories/portals for specific fields (e.g., Life Sciences, Government, Journalism, etc.) addressing the topics of the call.

#### Facts and figures

Call open: The call will be open for submissions from 15th August 2012.

Deadline for submission of proposals: 19th September 2012, 17h00 Brussels time.

Expected duration of participation in project: 6 to 12 months, starting earliest in October 2013.

Proposal format: proposals can include one or more organizations eligible for EU funding, and should have an indicative funding between €15,000 and €50,000.

Call identifier: PD-2-2012

Language in which proposal should be submitted: English

Web address for further information (full call text/proposal guidelines): <http://www.planet-data.eu/news/call2>

Email address for further information: [silvia.cadeni@planet-data.eu](mailto:silvia.cadeni@planet-data.eu)

With 100+ branch offices located across the US, Experts US, Inc., is actively recruiting for the following positions:

Software Pricing Analysts - Austin, TX - Code #AU140

Software Engineers - San Jose, CA - Code #SJ150

Systems Analysts - Bentonville, AR - Code #BE110

Systems Analysts - Mpls, MN - Code #M230

Programmer Analysts - Jersey City, NJ - Code #JC150

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Senior Software Engineer

(New York, NY) IT Company Masters 4+ years of experience (Comp Science: Engg, Bus Admin, Instr, Mktg or Science) Develop, create and modify general computer applications software or specialized utility programs

Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency

May analyze and design databases within an application area, working individually or coordinating database development as part of a team

Various soft skills required. Travel may be required to client sites. Apply with 2 copies of resume to: Mr. Jesse Martin Inc. 551 5th Avenue, Suite 1425, New York, NY 10116.

Interested candidates send resume to: Google Inc., PO Box 26164 San Francisco, CA 94126 attn: Lisa Harrington

Partnership Tech Mgr. (Mountain View, CA)

#1615.1826 Drive strategy & lead that enables Google's prod through partnerships. Exp incl: Java, C, or C++ for launched prod, proj mgmt for small-to-med scale implement or submodule within a complex sys; internal stakeholder or external cust interaction while dev prod; mgmt w cross-funct teams, w focus on launch of new prod & s; analyzing tech aspects to a non-tech audience. Tech Solutions Eng (Mountain View, CA)

#1615.1245 Integrate Google prod with customer tech. Exp incl: web tech incl: HTML, XML, XSLT and CSS, white product, incl DNS, FTP, SSH, TCP/IP, Python, sys administration, & shell scripts, eg Bash, Korn, & lead tech team.

Site Reliability Eng (Mountain View, CA)

#1615.0056 Provide tech support to ensure full availability of Google online sys. Exp incl: C++, multithreading; Python; Shell; process sched; monitor & alarm; synchron; dist sys; load & perf test; no analysis & design; & platform; exp, oper sys; Kernel & Linux & Java.

Sr Analyst, Partner Strategy & Analytics (Mountain View, CA)

#1615.1332 Work w or leadership within Google to define & solve major strategic quest. Exp: incl strategy or oper at consult firm, investment bank, or Fortune 500 co; & lead op or strategic initiatives; & social network space & online ad.

Database Admin (Mountain View, CA)

#1615.1192 Manage databases & database app for various internet search engine on prod. Exp incl: Oracle & Business Suite app; Oracle Appli Server R1 & 10g; Oracle Database 10g & 11g Oracle RAC; & Linux.

User Interface Design (Mountain View, CA)

#1615.3598 Define the user model & user interface for new & existing Google products & features. Exp incl: CSS, HTML, Adobe Photoshop or Fireworks & leadership of a user-centered design process.

Tech Acc Mgr (Mountain View, CA)

#1615.3422 Create & implement tech acct strategies & support expansion of Google partnerships. Exp incl: Internet prod & tech; incl database tech, network tech, HTTP, XML, HTML, Javascript, Unix or Linux; & no prod lang; cust-facing role.

Bus Ops & Strategy Assoc (Mountain View, CA)

#1615.731 Execute high level bus ops & w/strat proj defined by Googles exec team. Exp incl: quant analysis, & fin model & analyze massive amounts of data; B2C strat form for high-tech comp; analyze & telecom investments; strat consult proj mgmt; provide emerging mkt & industry insight; & ident emerg & disruptive bus & consumer trends.

SW Eng Positions (Mountain View, CA) Design, develop, modify, and/or test we need for various internet search engine co projects. Exp include:

#1615.1875 web tech; C++; Java; Javascript; Python; HTML; CSS; adv algorithms & data struct; HTTP; sys design & dev; no prog; web appl dev; sys test; funct test; MapReduce; & BigTable.

#1615.1276 Internet Gateway Protocols (IGPs) exp. Incl: Internet Sys, Internet Sys (IS-IS) & Open Shortest Path First (OSPF); Border Gateway Protocol (BGP); Coarse Grained Shortest Path Div Multiplexing (CGWDM); opt transport sys; design & implement network sys using C, C++ or domain specific lang; design & dev ext to routing protocols; & analysis/synthesis of quantitative network measurements. Authorship of peer-reviewed publication in comp network field.

#1615.229 C or C++ Python; Java; data struct; algorithms; parallelized computations; multi-threading; agile prog; large scale dist file sys; & h/w temp.

#1615.2960 design, implement, test & maintain subsystems; dev. Jacript part optimize & self-modifying code; design & implement differentiating & merging algorithms for data struct in machine collaborative web app; dev & drive internal prog; manage open source prog; publish tech content for developer; provide end-user tech support; & reverse eng front-end tech.

#1615.3132 C++ & SQL; multithreaded programming; large scale data process; algorithm design & analysis; search team; & parallel & distrib comp SW Eng in Test Position.

#1615.2243 dev Java test automation.

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**IT Leadership Systems Analyst**  
**IT PROFESSIONALS:**, two openings - We are seeking candidates with a Bachelor's degree in Computer Sci., Soft. Eng. or IT. Must have 3+ years exp. in the position of Lead Systems Analyst in a large White Plains office Job duties include: Review, develop, create, and modify applications; design, develop, test, and implement programs involving vessel selection details Document requirements and formulate systems to parallel overall business strategies. Confer with programmers and take the lead on programming and system development projects; manage commodity trading. Create prototypes of new features and train new users. Utilize SAP integration of Global Trade Management. Send your resume to: E-Core IT Solutions, 50 ATHL. Bldg., Piquette, SC 29120, (803) 781-1100, Fax: (803) 781-1101, E-mail: E-Core@E-Core.com, Piquette, SC 29120. E-Core IT Solutions, LLC is an EOE.

Analysis, design, develop, maintain, install, test computer software programs. This job requires a minimum of 1 year of experience required Java, JSP, Oracle, UML, GOF, Design Patterns, J2EE, JSP, JSTL, JSP, SOL, ORACLE, MYSQL, SAP ABAP, SAP BI, UNIX & WINDOWS PLATFORMS. Software Engineer must know PLM, AEF and eMatrix Systems Manager in Computer or equiv. ETL Batch Process in SAP or equiv. (Batch run=5 yrs. Exp) or Master's. Traveling required, send resume to SBN@FOTEK.COM, 10000 Research Drive, Irvine, CA 92618

**Systems Analyst:** Analysis, design, develop, maintain, install, test, and computer programs. This job requires application. Skills required Java, JSP, Oracle, UML, GOF, Design Patterns, J2EE, JSP, JSTL, JSP, SOL, ORACLE, MYSQL, SAP ABAP, SAP BI, UNIX & WINDOWS PLATFORMS. Software Engineer must know PLM, AEF and eMatrix Systems Manager in Computer or equiv. ETL Batch Process in SAP or equiv. (Batch run=5 yrs. Exp) or Master's. Traveling required, send resume to SBN@FOTEK.COM, 10000 Research Drive, Irvine, CA 92618

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Intersted candidates send resumes to: Google Inc., PO Box 2615, San Francisco, CA 94126  
 or: Lisa Harrington, Please re-  
 ceive job offer! Twitter, Twitter Dev  
 ops, 1355 Market Street, Suite 400,  
 San Francisco, CA 94102  
 or: Google's high-growth strategic  
 partnerships, Exp. incr. **\$615,246** - perform analysis, present  
 ations, perf. data, mgmt., & drive  
 new bus. opp. - prepare mgmt. or  
 media or internet, sales. Up to  
 20% travel req'd.

**SW Eng Positions (NY, NY):** Design, dev, modify, and/or test sw needed for various internal search engine co. projects. Exp. incl: #1615872- Java & Jscript; flash dev & action script; web svc & appl #16153195 rel date models, query lang, conceptual modeling, art intel & data mining, comp netwks, dist oper sys, & comp security.

Interested candidates send resume to: Google Inc., PO Box 26184 San Francisco, CA 94126 attn: Lisa Harrington. Please reference job # below

**SW Eng Position (CAMBRIDGE, MA):** Design, develop, modify, and/or test we needed for various internet search engine co-projects. Exp. include:

- **HTML/CGI:** write integration tests for different code compo-
- **Usp: XML:** plan & design sw test automation frameworks in distro environ. Jscript & Spring. implement test frameworks in oo lang. & script lang.

CA based IT Co has multiple openings at Torrance CA office and unanticipated locations across the U.S. for Software Developer/Engineer, Computer Programmer, Systems Analyst, Project Manager, Systems Manager, ERP Consultants and Business Analyst. Travel required to unanticipated client sites/locations throughout the U.S. with expenses paid by employer. Send resume to Attn: HR RJT Computech, Inc. 23640 Hawthorne Blvd., 210, Torrance CA 90505.

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advertising job # below.

Software Engineer Positions  
(Kirkland, WA) Design, develop,  
modify, and/or test new needed for  
various Internet search engines on  
projects. Req'd exp.  
#1815.1307 - C++, Java, or  
Python, SQL, Google Analytics,  
MapReduce, or ASP.NET, search  
and numerical analysis, HTML,  
CSS, Jscript, Apache, J2EE,  
AppEngine, or ASP.NET, data  
struct. algorithms, perf. analysis,  
debug, & internal network pro-  
tocols.

#1815.1327 - multimedia sys.  
design & implement, video &  
audio in terms of codec specs,  
container formats, transport, pro-  
tocols & media pipeline; algorithm  
design & dev, signal process &  
multimedia components; C, C++,  
STL & multithread program, & hw  
acceleration, SIMD optimize &  
code vectorization.  
#1815.2224 - Java, C++, or other  
on lang, appl. dev, dist. storage  
infrastructure, & design, dev,  
production of large scale sys.

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located across the US, Experts  
US, Inc., is actively recruiting for  
the following positions:

Systems Analysts - Milpitas, CA -  
#0210210  
Database Architects - Atlanta, GA -  
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SAP Programmer Analysts -  
Houston, TX - #0210210  
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#0210210  
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York, NY - #0210210

Having employment to varying  
degrees throughout the US  
Please refer to appropriate job  
code when submitting resume  
to: Experts US, Inc. Attn: Sally  
Werhane, 100 Manpower  
Place, Milwaukee, WI 53212 or  
twan@expertsus.com or  
expertsus.com

Programmer Analyst (Huntley)

IL: Develop and write computer

programs to store, locate and

retrieve specific documents,

data and information. Apply in

duplicate to Huntley Beverages

Corporation 9714 N RT 47

Huntley IL 60142.

Senior QA Engineer, Edison NJ  
Design, create, debug and es-  
timate both automated and manual  
test cases for multi-tier applica-  
tions using Quick Test

Professional, LoadRunner and  
Quality Center. Involved in test  
process, test result, defects  
reported in Bugzilla and Rational  
ClearQuest. Develop UNIX and  
PL/SQL Scripts for backend test-  
ing in Oracle Database 10g,  
MySQL, Server, Document  
Validation, XML and CSV Files  
Validation and will use MySQL,  
MS SQL Server 2005, Postfix,  
SF, DOA/R, Lander/Office, HP  
Quality Center 10.0, Quick Test  
Professional 8.2, LoadRunner  
9.50, Oracle 10g, Java, J2EE,  
HTML, UNIX and XML. Requires  
Master's degree in Computer  
Science, Engineering or MIS.

Any suitable combination of edu-  
cation, training & experience  
would be acceptable. Bachelor's  
degree in related field and 5  
years of experience is acceptable  
in lieu of Master's degree in  
related field. Send resume to:  
Vijay Sharma, President, F&S  
Consulting Group, Inc., 485  
Route 1 South, Suite 408, Edison,  
NJ 08817

SoftProcs, Inc. seeks qualified

Systems Analysts, Programmers,

etc. with verifiable exp. to per-

form data definition/validate info.

Judging & segregating duties to

formulate operational models, etc.

using SPAN, Logility, SWIFT,

etc., to work in Atlanta, GA or

equival. CS or Eng'g or Mech.

Eng'g or rel. field & nec. travel

req'd. Send only resumes to 4470

Chamblee Dunwoody Road, Ste

230, Atlanta, GA 30338-6224

(EOE)

Interested candidates send resume to:  
Google Inc., PO Box 26184 San Fran-  
cisco, CA 94126 attn: Lisa Herrington.  
Please reference job # below: Financial  
Analyst Positions (Mountain View)  
CA:

Dev focus & data models & tools that  
provide a platform for decision mak-  
ing on a variety of business topics.  
Req'd exp and  
#1815.2272 - analysis, model filter prog  
ing for Fortune 500 comp within  
the telecom, homeland, or wireless in-  
dustry. Fin. prod. web sol. & net teams. Up  
to 25% travel req'd.  
#1815.2273 - analysis, model filter prog  
ing for Fortune 500 comp within  
the telecom, homeland, or wireless in-  
dustry. Fin. prod. web sol. & net teams. Up  
to 25% travel req'd.

Prod Mgr (Mountain View, CA)  
#1815.2288 - Take responsibility for  
single product from conception to  
launch. Req'd exp and dev & design of  
social, community & discovery prod  
& tech, prod crossing multiple major  
prod areas, online consumer prod  
space mkt expertise, and social &  
community dev products. &  
negotiations of prod req in multiple  
on house teams. Pricing Strategy Assoc  
(Mountain View, CA) #1815.2288  
price analysis, monetization strategy,  
test model package, & unit of large  
datasets for Fortune 500. Up to 25%  
travel req'd.

SW Eng Positions (Mountain View,  
CA) Design, develop, modify, and  
at test or needed for various internet  
search engine co. projects. Req'd exp  
include  
#1815.2485 - C, C++, or Java, Python,  
Script, & database prog  
#1815.2508 - HTML, front end dev, &  
large scale data sys.  
#1815.2581 - object oriented program  
ing languages: HTML, HTTP, Web  
Servers, data structures, algorithms,  
and operating systems.  
#1815.2632 - C or C++, large data index,  
info retrieval, search engines, parallel &  
distributed comp, large data process &  
analysis, & perf analysis of info  
retrieval sys.  
#1815.2111 - stat data analysis &  
modeling, signal process, data filter-  
ing & denoising, optimizer theory,  
index, hash & concurrency control of  
database sys, big simulation & eval  
tools, C, C++, & STL, Python or Perl,  
Mathlab, XML, SQL, HTML, Incomp,  
parallel & dist computing, comp arch &  
memory optimize perf etc, statisti-  
cal analysis, & design & test reliable  
bio/vis sys.

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Mathlab, XML, SQL, HTML, Incomp,  
parallel & dist computing, comp arch &  
memory optimize perf etc, statisti-  
cal analysis, & design & test reliable  
bio/vis sys.

#1815.621 - dev or exp leadership,  
design & design to create, dist. data  
struct and on design & dev, web  
search, large scale math learn, pattern  
recog, info extract, natural lang, mac  
model, large scale data process, data  
mining & dist comp & master people  
#1815.428 - dev or using Java & C++  
dev, sys & enhance prod & for  
script, & design, enhance, test, &  
maintain subvs.

#1815.830 - C or C++, multithreading,  
STL, Python, large scale dist sys, parallel  
dist & dist comp, and MapReduce,  
math learn algorithms, stochastic  
model, & internet search eng, and  
crawling, indexing, & serving.  
#1815.2687 - multithreading, concurrency  
& sync, has server app & design  
patterns, dist sys, writing tech  
docs, Linux, & load & perf testing.  
#1815.2688 - C or C++, SQL, &  
database, HTML & Incomp, & design,  
web app frameworks, dist sys, algo-  
rithm design, data struct, multi-tier  
app, & dist comp, & full prod dev lifecycle  
& deploy

#1815.1818 - C++ & Java Python,  
Linux, & load & perf testing.  
#1815.2688 - C or C++, concurrency prog  
in SMP env, dist sys, perf & resource  
mgmt, Linux prod mgmt, & file sys,  
RPC, & Linux kernel.  
#1815.2689 - Java, XML, HTML, &  
CSS, large scale data process &  
analysis, multithreading & backend tech,  
stat eng, process, quality analysis &  
improvement, & design & analysis of  
experiments.  
#1815.2736 - C, C++, and obj C algo-  
rithms, multi-threaded appl on mobile  
devices, no design & arch, & optimize  
& perf issues on mobile devices & dist  
dev & app

#1815.2823 - C or C++ Python, Java,  
data struct, algorithms, parallel dist  
computations, multi-threading, appl  
program, large scale dist for &; have  
exp.  
#1815.2860 - C++ & Java, AJAX,  
HTML & CSS, cross-browser plat-  
forms, Google App Engine, UNIX  
design, prototyping, dev of interfacing  
user, user interface frameworks, and  
XUL, Flex & KAML, dev of mobile  
app. Android dev, no localization,  
mobile-tiered apps, Linux, & product &  
test cycles & practices.  
#1815.2882 - Java, electron schematic,  
C & C++, Linux or sys, no perf prod-  
ing, & parallel comp  
#1815.2883 - UNIX/Linux env no dev,  
Perl or Python script lang, no prog  
C++ & dev of large scale web app w/  
Incomp, HTML, CSS, AJAX  
SW Eng on Test Position (Mountain  
View, CA) #1815.2485 - Java & Incomp,  
HTTP, Web/Tier, Web prod, network  
& sys, no arch & design & refactor, &  
no test, test automation, continuous  
build infrastructure, & test driven dev

SW Eng Positions (Mountain View,  
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tools, C, C++, & STL, Python or Perl,  
Mathlab, XML, SQL, HTML, Incomp,  
parallel & dist computing, comp arch &  
memory optimize perf etc, statisti-  
cal analysis, & design & test reliable  
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include  
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Script, & database prog  
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large scale data sys.  
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analysis, & perf analysis of info  
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ing & denoising, optimizer theory,  
index, hash & concurrency control of  
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OPINION

# SCOT FINNIE

It's a misconception that the consumerization of IT is merely BYOD.

## The Real CoIT

**H**AVE YOU NOTICED that the term BYOD is on the rise and has become virtually synonymous with the much broader and deeper term "consumerization of IT" (CoIT)?

It's a common misconception that CoIT is merely the trend

toward employees using their own smartphones, laptops and tablets for work tasks like accessing corporate email, contacts, calendars and apps. But while mobile hardware is the starting point of CoIT, there's far more to it.

Underlying CoIT is a trend some have called "m-business." It's a "work-style" shift involving businesspeople using mobile devices as their primary means of connecting to the Internet, accessing corporate data and communicating with colleagues. The new work-style, which mixes home and work activities through days, evenings and weekends, has profoundly changed the way people work and is beginning to affect the expectations that companies have of their employees. There are management and HR issues and very real concerns about work/life balance and how that might affect the productivity and well-being of employees. So CoIT is not merely about a different type of hardware; it's about a different way of working.

It's also a movement toward simpler interfaces, inspired by social media, mobile apps and cloud-based apps and services. The rise of app stores overflowing with free or inexpensive problem-solving tools is reshaping user expectations about what software is and what it does. Many IT departments are adopting single-purpose apps adapted to enterprise use. The look and feel of social media software, as well as its people-powered nature, has a huge influence on consumerization — and it has nothing to do with businesspeople bringing their personal devices into the office.

Public clouds aimed at end users are another important aspect of CoIT. The syncing of email, calendars and user data across multiple devices is

perhaps the best example of consumer-oriented cloud services used for business purposes.

Of course, CoIT raises security concerns. Most smartphones and tablets aren't built with enterprise-class security — though that is starting to change. But it's not just about hardware security features; when you welcome all manner of devices, the potential for security snafus multiplies. It's also easy to lose a mobile device or have it stolen. All of these factors threaten corporate data. Public clouds and Web-based apps also create security risks.

The vaguely derogatory term BYOD probably started off as some IT person's joke, a takeoff on a similar acronym that rhymes with it. "Bring your own device" takes the end user's point of view, not IT's. But it defines a very narrow aspect of CoIT — and misses some of its most important aspects.

And CoIT is very important. That's why Computerworld has been working hard to stay abreast of this fast-growing trend. We recently updated and augmented the topic centers on our website, adding, among others, new topic pages that track all the stories we publish about CoIT and BYOD. Computerworld's parent company, IDG Enterprise, (with some help from yours truly) just launched a new online publication called CITEworld.com. "CITE" stands for "consumerization of IT in the Enterprise." CITEworld covers CoIT from the IT perspective. IDG Enterprise also launched the companion CITE Conference and Expo in March. Coming in October, the one-day CITE Forum will be held in New York.

It's all part of our commitment to keeping up with the things that really matter to IT today. •

Scot Finnie is Computerworld's editor in chief. You can contact him at [sfinnie@computerworld.com](mailto:sfinnie@computerworld.com) and follow him on Twitter ([@ScotFinnie](https://twitter.com/ScotFinnie)).





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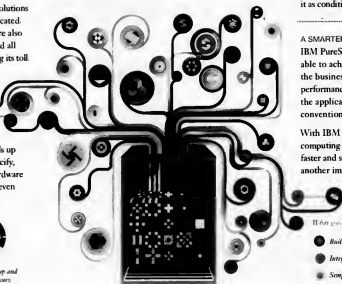
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<sup>1</sup> Based on a 2011 commissioned study conducted by IBM Consulting on behalf of IBM. It focused on testing of the IBM PureSystem System 5250-76 with time measured from powering on the system to when it is ready to support application development and client deployment of the IBM i and/or Linux, AIX and/or z/OS applications. IBM's extensive research on topics like transaction processing, honed through thousands of engagements, is a previous generation IBM system. The IBM PureSystem 5250-76 Compute Node is available in IBM i, Linux, AIX and z/OS configurations. IBM i, AIX and z/OS are trademarks of International Business Machines Corporation. IBM PureSystem, IBM PureSystem System 5250-76, IBM logo, IBM PureSystem, IBM PureSystem System 5250-76 and the planet icon are trademarks of International Business Machines Corporation. Copyright © 2012 IBM Corporation. All rights reserved. IBM, the IBM logo, and the planet icon are trademarks of International Business Machines Corporation. 2012

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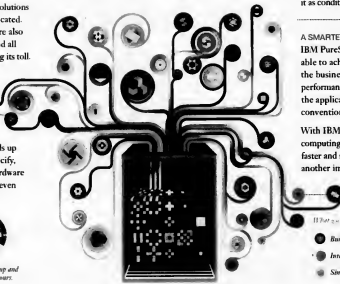
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